

## NOTES ON HOVEA R. Br. (FABACEAE) : 1

by

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### ABSTRACT

Ross, J. H. Notes on *Hovea* R. Br. (Fabaceae) : 1. *Muelleria* 6(6): 425-428 (1988). — A general introduction to the endemic Australian genus *Hovea* is provided. The common alpine *Hovea* in south-eastern Australia is elevated to species rank as *H. montana* and the necessary combination is made. A lectotype is selected for *H. montana* and the distinctions between this species and *H. beckeri* F. Muell. are given.

### GENERAL INTRODUCTION

*Hovea*, a small endemic genus of about 20 species, was described by R. Brown in Ait. f., Hort. Kew. edn 2, 4: 275 (1812), and named in honour of the Polish collector Anthony Pantaleon Hove who sent many plants to the Royal Botanic Gardens, Kew. The genus has a widespread but disjunct distribution on mainland Australia, occurring in south-western Western Australia from south of Geraldton to a little east of Esperance, in Arnhem Land in the Northern Territory, and from the Cape York Peninsula in Queensland southwards through much of New South Wales, eastern and southern Victoria into the southern Flinders Ranges in South Australia. In Tasmania species are distributed in the north and east and in the central highlands.

Polhill (1976) referred *Hovea* to the tribe Bossiaceae which he divided into two groups, namely the *Templetonia* group consisting of *Templetonia* R. Br., *Hovea*, *Plagiocarpus* Benth. and *Lamprolobium* Benth. which have alternately basifixed and dorsifixed anthers with narrow connectives, collar-like lipped arils and straight radicles, and the *Bossiacea* group with uniform dorsifixed anthers having a broad connective (the anther slits down the face of the thecae, not lateral), usually hooded cap-like arils, and a slender curved radicle exerted from the cotyledons. Polhill (1981) noted that technically there was little difference between the *Templetonia* group of genera and the small tropical American tribe Brongniartieae consisting of *Brongniartia* Kunth. and *Harpalyce* Moc. & Sesse ex DC.; Bentham (1865) included *Lamprolobium* in the sub-tribe Brongniartieae of the Galegeae and Taubert (1894) added the genus *Plagiocarpus*. Arroyo (1981) supported the view expressed by Polhill (1981) and noted that the taxonomic separation of the *Templetonia* group of Australian genera in the tribe Bossiaceae from the American Brongniartieae rested largely on the grounds of convenience together with arguments "to the effect that such groups probably represent endpoints of a once widespread austral complex of ancient papilionates". Following a detailed analysis Crisp & Weston (1987) took the step foreshadowed previously by Polhill and by Arroyo and transferred the *Templetonia* group of genera to the Brongniartieae.

*Hovea* is distinguished from the other members of the *Templetonia* group of genera in having seeds with an aril which is three or more times as long as broad, pods which are not or scarcely longer than broad, blue, purple or white corollas (except for the markings) with a broad standard and a short keel, and simple leaves with generally spreading nerves and reticulate venation although the latter is often obscured by hairs.

The hairs in *Hovea* are taxonomically important. Often mixed hair types occur together with an understorey of short hairs beneath scattered longer hairs or sometimes the hairs vary on different parts of the same plant. The hairs are uniseriate with small basal cells and an elongate distal cell but sometimes the distal

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cell is elongated in both directions to give a T-shaped hair although one arm is often very much shorter than the other. The resulting asymmetrically biramate hairs are usually appressed and the biramate nature of the hairs is easily overlooked.

The size, shape and position of the paired bracteoles in relation to the calyx are important taxonomically as are the size and shape of the bract and its position relative to the bracteoles.

I have been studying *Hovea* for several years with a view to preparing an account for the Flora of Australia and have found it to be a taxonomically perplexing genus, especially in eastern Australia where species delimitation and recognition is often extremely difficult. It is no consolation, but previous workers on the genus have apparently experienced similar difficulties. Much remains to be done but rather than wait until work has been completed it is intended to publish results progressively in a series of notes.

Bentham (1864) recognized six species in Western Australia and five species in eastern Australia. Strangely perhaps, among the eastern species he maintained *H. linearis* (Sm.) R. Br. and *H. heterophylla* A. Cunn. as separate species even although he realized that they were very closely allied and that intermediates existed. Apart from *H. acutifolia* A. Cunn. and *H. longipes* Benth., all of the other material from eastern Australia was referred to *H. longifolia* R. Br. within which he recognized four varieties. In treating *H. longifolia* as an "omnibus species" Bentham stated "The following forms, usually considered as distinct species, pass into each other by such insensible gradations, that I am unable to distinguish them otherwise than as varieties". Material that has accumulated in herbaria since Bentham's time has confirmed the existence of "insensible gradations" between some of the taxa to which he referred.

Domin (1925) followed Bentham in treating *H. longifolia* as an omnibus species and recognized within it five varieties and five subvarieties. Domin's treatment was not followed generally and, without wishing to be unduly critical, the main effect of his work was to clutter up the literature with names.

It is apparent from a letter dated 16 February 1950 written by R. H. Anderson, Chief Botanist, National Herbarium of New South Wales, to C. T. White, Government Botanist, Queensland Herbarium, that W. F. Blakely had worked on the genus. Anderson's letter reads in part "Mr Blakely was interested in this genus and much of his work had reached the manuscript stage at his retirement. He proposed naming a number of new varieties and some species, but we are not proceeding with publication as Miss Garden of my staff has sorted our material of this genus and finds that she cannot agree with Mr Blakely's conclusions". I have not succeeded in tracing a copy of Blakely's manuscript.

The results of a survey of limited extent of the material in NSW by Thompson & Lee (1984) has proved to be an extremely useful foundation upon which to build. Thompson & Lee were the first authors to realize that *H. longifolia* is a distinctive species with a narrow range of distribution almost entirely within the central coastal area of New South Wales and that most of the other taxa included in it by Bentham and by Domin do not belong with *H. longifolia*.

#### HOVEA MONTANA, A CHANGE OF RANK FOR THE ALPINE HOVEA

J. D. Hooker (1856) treated this common low spreading shrub found in the highlands of Tasmania and in the alpine and subalpine areas of the Australian Alps in the southern Tablelands of New South Wales and eastern Victoria as a variety of the widespread *H. purpurea* Sweet to which he applied the name var. *montana*. Willis (1967) realized that var. *montana* did not belong with *H. purpurea* and transferred the variety to *H. longifolia*.

It is clear that this entity is distinct from both *H. purpurea* and *H. longifolia* and, as indicated by Thompson & Lee (1984), is worthy of specific rank. As the name *montana* has been associated at varietal rank with this entity for so long it

seems appropriate to retain this epithet at specific rank. This opportunity is taken of effecting the necessary new combination and change of rank.

**Hovea montana** (J. D. Hook.) J. H. Ross, comb. et stat. nov.

*H. purpurea* Sweet var. *montana* J. D. Hook., Fl. Tasmaniae 1: 93 (1856). – *H. longifolia* R. Br. var. *montana* (J. D. Hook.) J. H. Willis, Muelleria 1: 127 (1967); Handb. Pl. Victoria 2: 282 (1973). LECTOTYPE (here chosen): Gunn “800/1837 Burghley Surrey Hills 16/2/37”, K. ISOLECTOTYPE: NSW (NSW 97888). See below.

*Hovea* “sp. Q” sensu Thompson & Lee, Fl. New South Wales 101(2): 138 (1984), pro parte.

Hooker based his description of *H. purpurea* var. *montana* on material collected in Tasmania by Gunn and numbered 800. The numbers accompanying Gunn’s specimens are not collecting numbers but species numbers as it was his custom to give the same number to collections of what he took to be one taxonomic entity even if the specimens were collected on different dates or from different localities (Burns & Skemp, 1961; Haegi, 1982).

In Herbarium Hookerianum at K there is a sheet of material collected by Gunn which comprises six specimens, five in fruit and one in flower. The specimens represent four different collections. The three short fruiting twigs mounted at the top of the sheet and almost covered by a note in Gunn’s hand pinned to the sheet apparently belong together. Gunn’s note for them reads “800 *Hovea*. A very distinct & pretty small species very common on the mts. to an elevation of 4000 ft. The plants are bushy but seldom exceed 9 inches to a foot high.” A fruiting specimen mounted on the left hand side of the sheet beneath one of the twigs referred to above is accompanied by a label in Gunn’s hand which reads “800/1837 Burghley Surrey Hills 16/2/37” and a page of Gunn’s notes which is pinned to the sheet and almost completely obscures the specimen and the label. A fruiting specimen mounted on the right hand of the sheet is accompanied by a label in Gunn’s hand which reads “800/1842 Marlborough 8/1/41” and Gunn’s notes on the habit and distribution of the species. A flowering specimen mounted centrally and facing the foot of the sheet has written on the sheet next to it “R. Gunn Esq. V.D.<sup>S</sup>. Land”. Almost in the centre of the sheet is a label numbered 799 which does not refer to any of the specimens on the sheet.

All of the collections on this sheet in K are regarded as syntypes. As Hooker made special mention of the fruits in the protologue I now select the specimen mounted on the left hand side of the sheet accompanying the label on which is written “800/1837 Burghley Surrey Hills 16/2/37” from among the syntypes as the LECTOTYPE of *H. purpurea* var. *montana*. An ISOLECTOTYPE is housed in NSW (NSW 97888). The Gunn specimens labelled “800/1842 Marlborough 8/1/41” and “800/1842 Marlborough 17/10/40” in NSW and numbered NSW 97886 and NSW 97885 respectively are regarded as probable syntypes as is a specimen in E labelled “V.D. Land Gunn-800/1847”.

Mueller labelled several collections from Victoria *Hovea gelida* but apparently this manuscript name was never published.

Thompson & Lee (1984) included under their *Hovea* “Sp. Q” a “form in the Central and Northern Tablelands which appears to differ only in the dimensions of the flower parts, especially of bract and bracteoles; . . .”. This entity is referable to *H. beckeri* F. Muell. *H. beckeri* is common in the southern Flinders Ranges in South Australia (included under *H. longifolia* var. *longifolia* by Webber, 1986) and occurs sporadically in the Tablelands of New South Wales, the populations in the two States being separated by a large geographical discontinuity. *H. beckeri* is allied to *H. montana* but differs in habit, in having larger bracts and bracteoles, larger flowers and long stamens and styles. The stamen filaments and styles usually persist after the corolla has been shed and are very distinctive. Annotations on some specimens indicate that Blakely had applied the manuscript name ‘*H. lanceolata* var. *stylosa*’ to this entity.

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